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Authors of papers intended for publication in FOOD TECHNOLOGY should request from the Editor's office a copy of a booklet, titled "Suggestions to Authors," and see that their papers are in the form specified therein before they are sent to the editor.

The Institute of Food Technologists assumes no responsibility for statements in contributed articles appearing in FOOD TECHNOLOGY. Editorials present only opinions of the writers and do not necessarily reflect policies of the Institute of Food Technologists.

Selected Abstracts

ANALYTICAL METHODS

288J. The colorimetric determination of aluminum in silicate materials.

ROBERTSON, G. *J. Sci. Food Agric., 1,* 59-63 (1950).

Two methods differ only in the reagent used to inhibit the iron color, the final pH of the lake and the amount of iron that can be present. Thioglycollic acid and hydroxylamine hydrochloride are used to prevent the formation of the color due to iron, thioglycollic acid being the more effective. As the solubility of the lake increases with increasing alkalinity, the pH in the alkaline method is carefully controlled at 7.5 ± 0.2 by means of ammonium borate solution. Other factors influencing color development are discussed. The limits of tolerance of elements that interfere in color production are given, and the application of the methods to the determination of aluminum in soil extracts, soils and clays is described.

289J. Determination of ethylene oxide and methods of its recovery from fumigated substances.

KHISHEN, S. A. E. *J. Sci. Food Agric., 1,* 71-7 (1950).

Previous attempts to determine ethylene oxide are surveyed and critically investigated. New methods of analysis have been suggested and certain modifications of existing methods applied to suit conditions of experiments. New methods for the detection and approximate determination of the fumigant in an atmosphere containing the gas have been established. Methods of recovery of ethylene oxide from grain and sultanas have been studied; part of the oxide has been shown to be readily recoverable and the remainder only with great difficulty.

290J. The determination of ascorbic acid in the presence of ferrous salts, with particular reference to canned foods.

BROWN, F., AND W. B. ADAM. *J. Sci. Food Agric., 1,* 51-3 (1950).

The interference of ferrous iron in the titration of ascorbic acid in a metaphosphoric acid medium with 2:6 dichlorophenolindophenol can be avoided by the use of other acid media. The present work shows that the use of a sodium acetate-hydrochloric acid buffer of pH 0.65 instead of the more usual metaphosphoric acid, as an extractant for canned foods, avoids the complications due to ferrous salts. The stability of ascorbic acid in the two media is similar.

291J. The determination of the true iodine numbers of oils containing conjugated double-bond systems.

KLEE, L., AND G. H. BENHAM. *J. Am. Oil Chem. Soc., 27,* 130-3 (1950).

The modified Rosenmund-Kuhnhenn procedure has been applied to conjugated systems. The only difference is that the 1-minute reaction time is extended to 30-120 minutes depending upon sample weight and excess reagent. Such a procedure gives true iodine numbers and has been investigated for various tung oils, oiticica oil, isomerized fatty acids, and dehydrated castor oil.

BIOLOGICAL SCIENCES

BIOCHEMISTRY

292J. Browning of ascorbic acid in pure solutions.

LAMDEN, M. P., AND R. S. HARRIS. *Food Research, 15,* 79-89, Jan., Feb., 1950.

The water of crystallization of citric acid ($C_6H_8O_7H_2O$) promoted browning of a powdered mixture of ascorbic acid and citric acids at 49° C. Ascorbic acid-citric acid solutions containing increasing amounts of citric acid, and heated three hours at 100° C., showed an increased optical density (at 410 mμ) and decreased ascorbic acid content with increasing concentration of the citric acid. Malic, tartaric, and oxalic acids also caused color formation when heated with ascorbic acid at 100° C. Neither color formation nor loss in ascorbic acid depended on the presence of oxygen, during heating of highly acidic solutions of ascorbic acid. Sulfur dioxide prevented formation of color in ascorbic acid solutions. Sulfur dioxide probably does not function as an antioxidant in this reaction. Color formation was demonstrated to be a function of the initial ascorbic acid content in highly acidic ascorbic acid solutions heated at 100° C. Furfural was formed when an ascorbic-citric acid solution was boiled. It was not formed when a dehydro-ascorbic acid solution was boiled. Oxygen was consumed and carbon dioxide was evolved at a linear rate when an ascorbic-citric acid solution was heated at 60° C. Approximately half the carbon dioxide theoretically obtainable from the ascorbic acid destroyed was accounted for. The remainder may have been present as an ascorbic acid transformation product or products not yet decarboxylated. There was no measurable decomposition of citric acid during browning of a heated ascorbic-citric acid mixture. Rate of loss of ascorbic acid in highly acidic solutions indicated the reaction was monomolecular. The bearing of these results upon the browning reaction noted in dehydrated citrus products is discussed.

293J. The enzymatic degradation of ascorbic acid. Part I.—The inhibition of the enzymatic oxidation of ascorbic acid by substances occurring in black currants.

HOOPER, F. C., AND A. D. AYRES. *J. Sci. Food Agric., 1,* 5-8 (1950).

The ascorbic acid in black currants is very stable. It has been found that this fruit contains substances which inhibit the oxidation of ascorbic acid by the enzyme systems of Bramley apples. Partial separation of the active substance into two main fractions has been achieved. The one is associated with the anthocyanin pigments, and the other is associated with the yellow flavanone pigments which resemble "vitamin *P*."

294J. The comparative biochemistry of vitamin function.

BEERSTECHER, JR., E. *Science, 111,* 300 02 (1950).

Vitamins are classified into two groups. The B vitamins are associated with fundamental metabolic app. of living cells, whereas the other vitamins appear to have only highly specialized functions for certain tissues and cell groups.

295J. Composition of linseed mucilage.

EASTERBY, D. G., AND J. K. N. JONES. *Nature, 165,* 614 (1950).

Mucilage obtained from sperms of linseed has been acid hydrolized and paper chromatographed. No glucose was found in the acid hydrolyzate. Galactose, arabinose and rhamnose were found in quantity. A trace of ribose or fucose was suggested.

MICROBIOLOGY

296J. Bacterial aspects of precooked frozen foods.

GUNDERSON, M. F., H. W. MCFADDEN, JR., AND G. MINTHORN. *Bibl. Tech. Rept., 18,* 163, PB 98218 (1950).

A review correlating in abstract and bibliography form, the great maze of material which has gradually accumulated in the literature throughout the years. Additions will be appended from time to time.

297J. Studies on putrefactive anaerobes as spoilage agents in canned foods.

ASCHEHOUG, V., AND E. JANSEN. *Food Research, 15,* 62-7, Jan., Feb., 1950.

On examination of 13 different kinds of canned foods, including marine products as well as meat and vegetables, the most important spoilage agents were. flat-sour-producing bacteria. Second in order to the flat-sour organisms were the putrefactive anaerobes, of which *Cl. parasporogenes* and *Cl. sporogenes* were typical representatives. The spores possess

(Continued on page 10)

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News of the Institute

BRIEF HISTORY OF THE CHICAGO SECTION, I. F. T.

E. S. STATELER

EDITOR'S NOTE: During the Tenth Annual I. F. T. Meeting held in Chicago, Illinois, Mr. Stateler, Associate Editor of Food Industries and a former chairman of the Section, presented an outline of the organization and history of this important segment of the Institute. The following is the text of Mr. Stateler's talk, delivered at the Nicholas Appert Medal Banquet on May 23, 1950.)

MRS. RECTOR, MR. PRESIDENT, MEMBERS, AND GUESTS:

Yesterday, many of you learned from Dr. Prescott some of the mile-posts in the growth of the Institute as a national organization.

Tonight, attention will be focused for a few minutes on its local growth, as represented by the Chicago Section, the possessor of Regional Section Charter No. 1.

By drawing this parallelism, we wish to indicate that the Chicago Section had its conception almost with the birth of the Institute. True, no organizational move was made immediately. However, that delay does not necessarily indicate non-existence of the idea of a Chicago Section at the time the Institute was founded. As usual with all new organizations, some lapse of time was necessary to get group activities under way. I repeat: To a large extent, the history of the Chicago Section is that of the Institute and vice versa. Both have evolved step by step over these past ten years. Many of the policies of the Institute have developed out of the experiences of the Chicago Section and have been applicable to all regional sections. Conversely, the Chicago Section has benefited from the early experiences of the Institute; particularly with respect to avoiding large committees and to giving young and new members places on committees. Further, the portion of the I. F. T. Constitution pertaining to regional sections is essentially a verbatim inclusion of the By-laws of the Chicago group; first identified as the Chicago Association of Food Technologists.

I have used the verb "evolved" advisedly. Who originated the concept of a Chicago Section is unknown to me; probably unknown to anyone. Very likely, the concept had its origin in conversations among those engaged in food technology in the Chicago area. Such a beginning has been the case with other developments in the life of the Section.

The first recorded evidence is found in the minutes of the October 13, 1939, meeting of the Institute Council in Pittsburgh, Pa. In those minutes is a letter from E. H. Harvey to Roy C. Newton, then vice president of the Institute, expressing the desire of Chicago food technologists to be host to the First Annual Conference. Acceptance of the invitation included the naming of Harvey as Chairman of the Local Arrangements Committee. In the capacity of Chairman of the Committee, Harvey met with 24 others on the evening of November 8 to lay preliminary plans for the 1940 Conference. Those in attendance were:

> Edward G. Applegate, Oscar Mayer & Co.; J. Raymond Chittick, Jaques Manufacturing Co.; Victor Conquest, Armour and Company; George A. Crapple, Wilson & Co.; William D. Dotterer, Bowman Dairy Co.; Lloyd A. Hall, Griffith Laboratories, Inc.; G. Victor Hallman, Continental Can Co.; Lloyd B. Jensen, Swift & Co.; R. W. Johnson, Continental Can Co.; I. O. Juvrud, W. E. Long Co.; James W. Kellogg, Institute of American Meat Packers; John T. Knowles, Libby, McNeill & Libby; Fred W. Kurk, Wilson & Co.; Milton L. Laing, Armour and Company; Cyrus C. Lippman, Libby, McNeill & Libby; Roger H. Lueck, American Can Co.; Harold S. Mitchell, Swift & Co.; Roy C. Newton, Swift & Co.; Ferdus N. Peters, Quaker Oats Co.; Lloyd K. Riggs, Kraft-Phenix Co.; H. B. Ritchie, Swift & Co.; E. S. Stateler, Food Industries; Lucius M. Tolman, Wilson & Co.

They included chemists, bacteriologists, and engineers; not convention promoters, not Chamber of Commerce boosters accustomed to staging conventions or annual meetings.

Decision was made to have the committee meet monthly to receive progress reports from the six subcommittees and to start additional plans. These additional plans implemented and supplemented the work of the subcommittees.

In the course of the December 6 meeting, addressed by Dr. Prescott on "The Food Technologist and His Work," the first step was taken to organize a Chicago Association of Food Technologists. Membership in the proposed association was to be limited to Institute members in the Chicago metropolitan area. Harvey was designated Temporary Chairman, and George Crapple, Temporary Secretary.

Treasurer? There was none; the committee had no funds. Also, the proposed new organization had no authority to fix dues or set up means of collecting funds. Meeting notices consisted of telephone calls and verbal messages passed along to individuals likely to be interested. Expenses of the early meetings were covered by an extra charge to those participating in a group dinner.

In this manner began the custom of a monthly dinner meeting consisting of a business session and a technical session. Publicity for the Annual Conference began with news releases reporting these monthly meetings to about 100 technical and business publications. Attendance at the first meeting totalled 35 and progressively increased at each meeting.

By February, 1940, a set of By-laws had been drawn up and adopted, an election of officers, including a treasurer, had been held under the By-laws, and an annual dues of $1 per member had been voted. Post card notices of meetings were started, and individuals from Milwaukee and Madison, Wis., Champaign and Peoria, Ill., Lafayette and Indianapolis, Ind., and East Lansing, Battle Creek, and Fremont, Mich., began to attend the monthly meetings.

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LTIES • WIENERS • CANNED SOUPS • PICKLES • CATSUP • PORK SAUSAGE • RELISH • MINCED HAM
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Abstracts

(Continued from page 6)

great heat resistance and are widely distributed in nature. The concentration of spores in the medium influences the heat resistance.

NUTRITION

298J. The comparative availabilities of mixtures of the L and DL modifications of the essential amino acids for growth in the rat.

VAN PILSUM, J. F., AND C. P. BERG. *J. Biol. Chem. 183,* 279-89 (1950).

Contrary to the often repeated conjecture that the D forms of the essential amino acids may be toxic in the rat, proportionately large amounts can actually be fed as components of DL-amino acid mixtures without producing any apparent growth-retarding or other deleterious effect. Moreover, when fed in excessive amounts, the L form of an amino acid may, as has been shown in the case of methionine, be even more deleterious than its D modification.

299J. Comparison of meat and legumes in a controlled feeding program.

MACK, P. B. *J. Am. Diet. Assn., 25,* 848-57 (1949).

Two groups of institutional children of similarly poor initial nutritional status were fed dietaries over a fourteen-month period which were closely similar, except for the fact that one group received meat two and the other ten times weekly. The first group consumed legumes and other vegetable products to an extent which compensated on a calculation basis for the nutritive content of the meat. Both dietaries met specified recommendations, and the low-meat dietary followed a pattern frequently recommended as a low-cost adequate dietary. Liver constituted one-tenth of the meat intake in each dietary. The children on the higher meat dietary were superior in epithelial cell condition; in condition of the skin; in reversal of atrophy of the filiform and fungiform of the tongue; in reduction in enlargement of certain glands; in skeletal mineralization; in age schedule of development (growth) according to the Wetzel Grid; in hemoglobin; in red cell count; in level of blood plasma vitamin A; in certain serum protein fraction relationships; in blood phosphatase; in urinary excretion of thiamine (slightly) and of riboflavin (markedly); in reflexes; in absence of fatigue; and in dark adaptation. During a second fourteen-month period, the children in the institution formerly on the low-meat and high-legume intake followed the higher meat dietary and vice versa. The reversal in the dietaries was accompanied by a reversal in certain physical status findings, as follows: The institutional children on the higher meat intake were superior to the other group in condition of epithelial tissues; condition of the tongue; freedom from nasal discharges (not a common cold); freedom from cerumen in the ears; condition of the cervical glands; condition of the skin; growth; and skeletal mineralization. Again, the low-meat group was not superior to the higher meat group in any physical respect.

PHYSIOLOGY

300J. Cyanide protection against X-irradiation.

BACQ, Z. M., A. HERVE, J. LECOMTE, AND P. FISCHER. *Science, 111,* 356 (1950).

Cyanide protects a significant percentage of mice irradiated by a lethal dose of X-rays. The cyanide is ineffective when given after irradiation.

FOOD PRODUCTS

BAKING AND BAKERY PRODUCTS

301J. Egg white, its advantage in white layer cakes.

GLABAU, C. A. *Bakers Weekly, 146,* 46-8 (1950).

Increased amounts of egg white in standard white cake formulas produced improved cake scores, increased volume and increased tenderness.

302J. The determination of extraneous materials in biscuits.

COPPOCK, J. B. M., AND R. C. A. BRADSHAW. *J. Sci. Food Agric., 1,* 57-9 (1950).

A method is described for examining biscuits, with and without chocolate couverture, for the presence of extraneous materials such as rodent and other animal hairs, insect fragments and mold spores. The application of this method to the problem of "good housekeeping" in this type of food manufacturing is briefly discussed.

FROZEN FOODS

303J. The production of "amber whites" in shell eggs by freezing and thawing.

HALE, H. P. *J. Sci. Food Agric., 1,* 46-8 (1950).

Some eggs recently imported into the United Kingdom under refrigeration were characterized by amber-colored whites and enlarged yolks. The pH of white and yolk, also the lipoid- and water-content of the yolk were abnormal. It has been reported that a similar condition arises during the cold storage of eggs laid by hens that have eaten malvaceous plants, seeds or oils. It has now been shown that the same abnormalities result if normal eggs are frozen above —6° C. and stored in the thawed state. It is suggested that "amber whites" are not always caused by the diet of the hen.

304J. Retention of riboflavin in vegetables preserved by freezing.

VAN DUYNE, F. O., J. C. WOLFE, AND R. F. OWEN. *Food Research, 15,* 53-61, Jan., Feb., 1950.

The mean values and standard deviations of the means for riboflavin contents of the raw, freshly harvested peas, snap beans, soybeans, and spinach are given. The riboflavin content decreased during blanching, blanching and cooling, and blanching, cooling, and holding for approximately 29 hours in the freezing unit. No further loss occurred during freezer storage for periods of 1, 3, 6, and 9 months.

305J. Effect of freezing rate on meat. Appearance, palatability, and vitamin content of beef.

LEE, F. A., R. F. BROOKS, A. M. PEARSON, J. I. MILLER, AND F. VOLZ. *Food Research, 15,* 8-15, Jan., Feb., 1950.

Rate of freezing was shown to have little effect on the flavor, odor, texture, juiciness, or appearance of beef. Neither thiamine, riboflavin, niacin, pantothenic acid, nor pyridoxine were measurably altered by the rate of freezing.

MILK AND DAIRY PRODUCTS

306J. Problems of the milk sanitation program.

WEBB, J. A., AND H. L. RAGSDALE. *J. Am. Vet. Med. Assn., 66,* 275-7 (1950).

Approximately 90% of all milking is done by machines; consequently it is imperative that these be kept as sanitary as possible. The rubber parts of milking machines are often ideal lodging spores for multiplication of bacteria.

PACKAGING

307J. Trace metals in food packaging.

THOMPSON, J. B., AND R. B. KOCHER. *Mod. Pack., 23,* 119-22, May, 1950.

The trace metal content of packaging materials is identified as an important factor in accelerating deterioration in certain foods. Products high in protein or fat have been found to be particularly susceptible to this type of deterioration. Iron and copper are common sources of trouble. Further research is indicated.

Abstracts

308J. A new collapsible tube.

Mod. Pack., 23, 78-83, May, 1950.

The manufacture and uses—actual and potential—of a radically new type of collapsible tube, convolutely wound from a printed sheet of laminated aluminum foil. The body, neck, and threads are all formed from the original sheet material. Bottom closure is affected by the conventional crimping operation after filling.

309J. First production line application of polyethylene liners in tin cans.

Pack. Parade, 18, 46, May, 1950.

Corrosive liquids formerly shipped only in glass may now be shipped in tin cans resulting in considerable savings in shipping costs. Package consists of an ordinary tin can into which is inserted a polyethylene bag. A flat sheet of film is placed over the top of the can followed by the usual metal lid. The bag, gasket and lid are crimped in a conventional sealer and the excess film is then burned off.

PATENTS

310J. Frozen lobster method.

ALTENBURG, W. M. Assignor to GI's Incorporated 2,501,655, Mar. 28, 1950.

The method of preparing fresh raw lobster in the shell for cold storage which comprises heating the exterior of the lobster just sufficiently to sear the surface of the meat next to the shell without cooking the interior meat, thereby loosening the meat from the shell, then cooling and rapidly freezing the lobster.

311J. Process of partly dehydrating meat.

ZIMMERMAN, S., 2,502,115, Mar. 28, 1950.

In a process for obtaining partly dehydrated preserved meat, the steps of salting meat and dehydrating the salted meat in the presence of an edible fatty substance in a vacuum at temperatures above the boiling point of water for the particular degree of vacuum employed, and interrupting the treatment when the water content of the meat is about 20 to 30%.

312J. Apparatus for decapitating fish.

SAVRDA, C. M. Assignor, by mesne assignments, to Fish Machinery Corporation, 2,502,175. Mar. 28, 1950.

A fish decapitating machine comprising a pair of parallel endless chains constituting a conveyor, a plurality of fish carriers, each of said fish carriers having a head-supporting portion secured to one chain, and a body-supporting portion secured to the other chain, said portions lying in the same plane but being spaced from one another to form an intervening straight channel extending parallel to said chains, said channel being disposed nearer to said one chain than to said other chain, rear flanges extending upwardly from said supporting portions, said flanges being inclined relative to one another and the flange on said body-supporting portion being inclined forwardly relative to a vertical plane perpendicular to said channel and passing through the rear end of said channel whereby when a fish is disposed on said carrier with its back in contact with said rear flanges the backbone will be inclined relative to said channel, a rotary circular knife adapted to pass through said channel when a fish carrier passes through the zone of action of said knife and means to drive said conveyor to cause said fish carriers to pass successively through the zone of action of said knife to decapitate fish carried on said carriers by a cut extending from the belly side to the back side at an angle to the backbone of each fish.

313J. Fish-filleting machine.

SAVRDA, C. M. Assignor, by mesne assignments, to Fish Machinery Corporation, 2,502,176. Mar. 28, 1950.

A feeding apparatus comprising a pusher finger adapted to engage the article to be fed at the rear thereof, a slidably mounted pusher finger plate carrying said pusher finger, a continuously driven chain conveyor, a pair of longitudinally spaced sprockets about which said chain conveyor travels, means securing said pusher finger plate to a link of said chain conveyor, a bracket secured to a chain link rearwardly of the first-mentioned chain link, and a pusher link pivotally connected to both the pusher finger plate and said bracket whereby when the pitch radius between said sprocket and bracket is changed the pusher plate is slidably moved in accordance therewith.

314J. Method of sterilizing food products.

BALL, C. O. Assignor to The United Products Company, 2,502,196, Mar. 28, 1950.

The process of sterilizing a composite culinary product containing 30 to 65% of discrete particles of a food product and the remainder a sauce containing 8 to 90% of a finely divided food product in added liquid, said process comprising sterilizing said composite culinary product in a container, while said added liquid contains not more than 35% of its weight of said finely divided food product and while said discrete particles and the remainder of said finely divided food product are substantially stratified in layers.

315J. Ice cream and stabilizer therefor.

WERBIN, S. J. Assignor to Stein, Hall & Company, 2,502,-397, Mar. 28, 1950.

An ice cream mix, stabilized by the presence of a relatively small quantity of guar seed gum.

316J. Method of extracting vitamin A from cow livers.

STEVENS, W. Assignor, by mesne assignments, to Hartford National Bank and Trust Company. 2,503,853, Apr. 11, 1950.

The method of preparing a vitamin A concentrate from cow livers poor in fat, comprising the steps of subjecting the animal material to the action of a partially water miscible organic solvent selected from the group consisting of methylethylketone, isobutanol, butanol-2, n-butanol, and n-pentanol-2 saturated with water to denaturate the albumins while dissolving the lipoids to produce an extract of the material containing vitamin A, and expelling the solvent to recover the vitamin A concentrate.

317J. Neutralization of pectinic acids with sodium bicarbonate.

GRAHAM, R. P., AND A. D. SHEPPHERD. Assignor to United States of America. 2,503,258, Apr. 11, 1950.

A process of preparing a partially-neutralized, low-methoxyl pectinic acid in granular, free-flowing form which comprises mixing a low-methoxyl pectinic acid gel having a moisture content from 40% to 72% with solid sodium bicarbonate and drying the resulting product.

318J. Process for preserving animal fats.

DUNKLEY, M. E. 2,504,507, Apr. 18, 1950.

In a process for the treatment of fatty animal tissue, removing fat from the tissue by heat treatment of the same, and then commingling the removed liquid fat with bubbles of a gas consisting of products of combustion analyzing substantially 8.2% carbon dioxide, 0.1 to 0.2% acetylene, 0.2 to 0.1% oxygen, 3.8% carbon monoxide, 2.2% methane, and 85.5% nitrogen.

319J. Process of manufacturing stabilized nut butters.

AVERA, F. L. Assignor to Rosefield Packing Company, Ltd. 2,504,620, Apr. 18, 1950.

A process of preparing a stabilized nut butter comprising introducing into the components of a nut butter during the manufacture thereof an hydrogenated oil stabilizer containing an edible oil which has been hydrogenated only to the point of maximum trans 9, 10 octadecenoic formation.

(Continued on page 24 following technical papers)

News of the Institute

(Continued from page 8)

This widening in interest in the Association activities encouraged a change in name to that of Midwest Association of Food Technologists. Although membership in the Association was limited to those holding membership in the Institute, all meetings were open to anyone sufficiently interested to attend. Meeting notices were mailed to only those paying the annual local dues. These practices have continued since the Section was chartered.

This open meeting policy has proved beneficial to the Section and to the Institute. Voluntary requests for I. F. T. membership application forms increased with the number of monthly meetings held; even in the absence of a local membership committee. Tangible results are indicated by the increase of I. F. T. membership in the Chicago area from about 25 in November, 1939, to over 150 in June, 1940. Present Chicago Section membership exceeds 400 in spite of losses of territory and membership to the Great Lakes and Ames Sections. These Sections were formed with our blessing. Although no concerted drive for members has been made by the Chicago Group and Section, encouragement to join the Institute has been made to those regularly attending the monthly meetings. These meetings are held during October to May inclusive. Applications for local associate membership in the Section are acceptable for Executive Committee action, but not urged. Preference is to build the membership of the Institute, rather than to add local or regional associates to the Section membership.

A measure of the success of the 1940 Conference plans was the attendance by 495 registrants which was up to the expectations of the Chicago group. A satisfying reward was sufficient income from the registrations and exhibits to more than pay all expenses incidental to the Conference; including printing of the souvenir program and transportation for the Institute President and Secretary. Since the Institute was low in funds, the Chicago Group wanted the Conference to be wholly self-supporting.

The pre-Conference interest in monthly meetings encouraged continuance of them with a change that the program for the technical session be limited to one speaker. Attempts to cover the chemical, biological, and engineering aspects of food technology in one evening proved unsatisfactory; the meetings were too long and wearisome.

Our account thus far has emphasized the formation of the Chicago Association and the staging of the First Annual Conference of the Institute. This emphasis is as it should be. During those seven months was laid the foundation for the Chicago Section, the establishment of group policies, and the close working relationships and friendships among and between the Chicago food technologists. These relationships have made further growth and accomplishments logical and practically inevitable.

Evidences are found among the following:

1. Petition to and acceptance on January 21, 1941, by the Council to be recognized and chartered as Regional Section No. 1 of the Institute.

2. Establishment of the Nicholas Appert Medal in 1941 with first award to be made at the 1942 Annual Conference and annually thereafter.

3. Membership in the Chicago Technical Societies Council and participation in its technical conferences.

4. Participation in Sunday lecture series at Museum of Science and Industry.

5. Staging of the 1944 Conference with a record-setting registered attendance of 727 in spite of war conditions.

6. Establishment of a Section Committee on Professional Status and Public Relations.

7. Organization of a Speakers' Bureau to supply voluntary speakers on food technology subjects to civic, educational, and professional groups in Chicago metropolitan area.

8. Participation in Vocational Guidance Clinic for high school juniors and seniors at Illinois Institute of Technology.

9. Founding of the *Vitalizer*, the self-supporting publication of the Section.

10. Staging of the present (1950) Decennial Conference of the Institute.

None of these accomplishments can be attributed to any one individual nor to any group of individuals. They represent the thinking and working together of the Chicago Section members as individuals and as represented by elected officers and Executive Committee members. These individuals represent cross sections of the Section membership with respect to professional training and experience, field of professional work, and age groups. Their identity changes after one term of office, except in cases of Secretary and Treasurer. They obtain their recognition through work as members of committees, chairmen of committees, attendance at meetings, and general interest in Institute and Chicago Section affairs.

These accomplishments also give testimony to the support given by the Section members to the elected officers and Executive Committees.

The roster of Section Chairmen is:

E. H. Harvey, G. V. Hallman, M. E. Parker, M. L. Laing, J. T. Knowles, R. V. Wilson, C. C. Ziegler, E. S. Stateler, C. L. Smith, R. A. Isker.

At no time during these ten years has any Chairman or other elected officer failed to carry out the authorizations of the Executive Committee and/or of the Section members, even though he might not personally be in favor of those authorizations. Also, in no instance has the Chairman or other officer of the Section sought to impose his thinking or wishes upon the Section, except through majority support by the Executive Committee.

These statements are made to emphasize the fact that actions of the Chicago Section are those authorized and supported by a majority of the members through their elected representatives on the Executive Committee and/or when assembled in a regular meeting. In no instance has the minority in an Executive Committee vote failed to support and to help put into execution a policy or project authorized by a majority vote.

Because and only because of this team-work relationship among the officers, Executive Committees, and Members has the history of the Chicago Section during these past ten years been so fruitful.

(Continued on page 20 following technical papers)

SINGLE KITCHEN TO SERVE PAN AMERICAN

According to a news story carried in the *New York Times* on July 9, 1950, a single food kitchen operated by the Pan American Airways at La Guardia airport will prepare meals to be served over half the face of the earth. This means that passengers flying as far east as Lisbon, Portugal, and Dakar, French West Africa, and as far south as Buenos Aires and Johannesburg, South Africa, will be served meals cooked and frozen here. As Mr. Kenneth Parratt, Pan American service manager pointed out to the *New York Times* reporter, one of the most important gains of the new service will be complete quality control. The highest quality foods will be purchased by the airline's own buyers, he said. In addition, wastage can be reduced greatly and production can be scheduled eight hours a day to save extra labor costs and sustain production.

The meals prepared by Pan American will be cooked and frozen at the La Guardia airport kitchen. Each meat and vegetable will be packaged separately in aluminum containers for freezing. The airline expects to serve about 20,000 meals a month from here.

Average flights from New York carry about 120 meals for the first lap of the flight, after which supplies will be drawn from the freezers as needed. The Pan American Airliners carry two electric element ovens equipped with fans for even heat distribution. These can prepare in flight 24 meals in about 12 minutes. Experiments have shown that faster preparation results in burning. Levened bread, sweet rolls and other food can also be cooked in the ovens.

Up to the present time, the line has been supplied here with foods by independent vendors except for supplies for a number of planes. The food for these latter has come from the La Guardia kitchen during a trial period since the first of the year. According to Mr. Parratt, sufficient evidence has been now gathered to assure that by using the pre-cooked frozen food substantial improvements in quality and savings can be attained. Similar experiments have been made before but the scope of Pan American's operation has never been paralleled in the history of the food industry.

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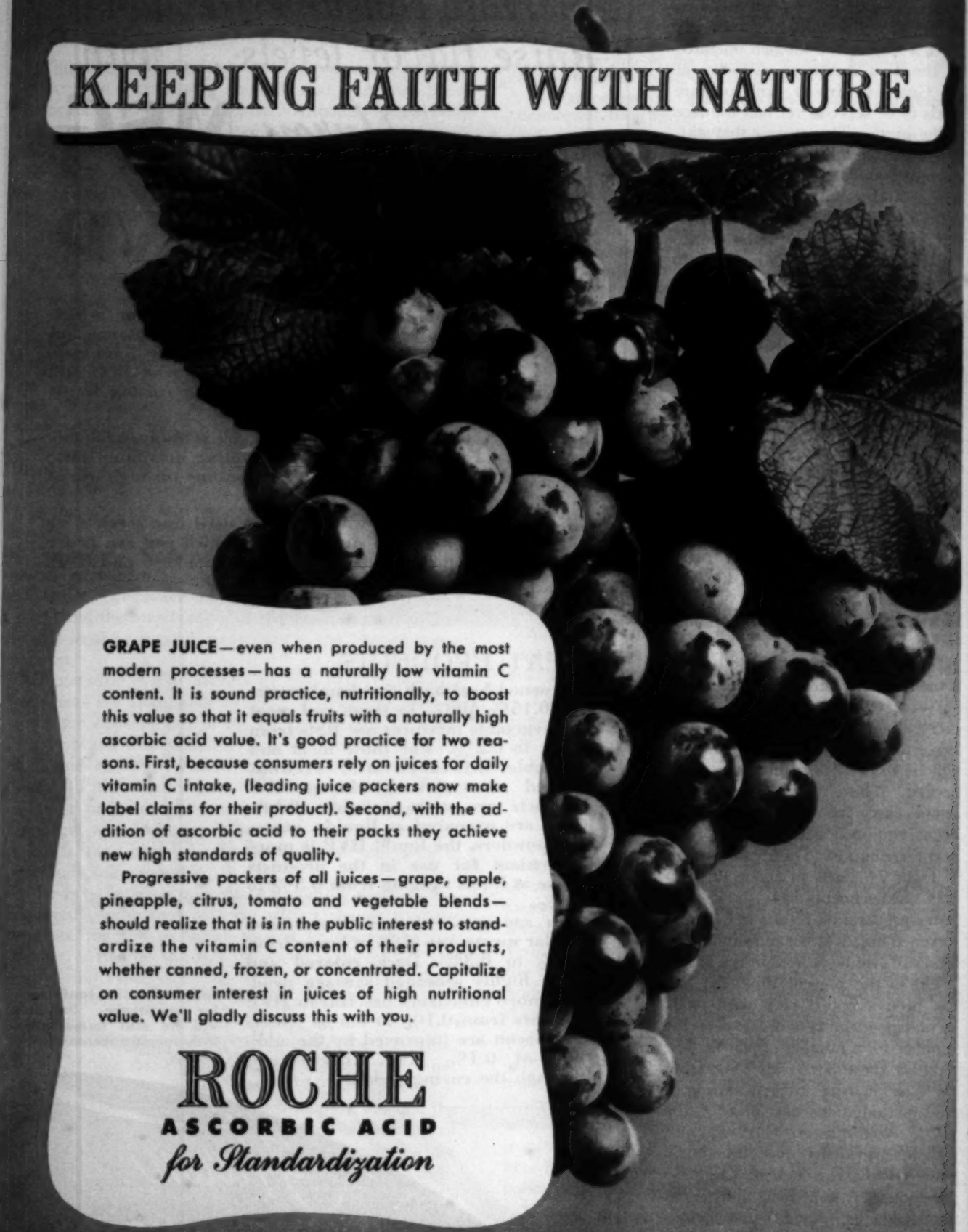

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Progressive packers of all juices—grape, apple, pineapple, citrus, tomato and vegetable blends—should realize that it is in the public interest to standardize the vitamin C content of their products, whether canned, frozen, or concentrated. Capitalize on consumer interest in juices of high nutritional value. We'll gladly discuss this with you.

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CONSTITUTION

Institute of Food Technologists

Adopted August 20, 1950

ARTICLE I

Name

The name or title by which this corporation shall be known in law shall be the Institute of Food Technologists, Inc.

ARTICLE II

Address of Institute

The executive office of the Institute shall be located in Chicago, Illinois. The Institute may have other offices within or without the State of Illinois, as the Council may from time to time determine.

ARTICLE III

Corporate Seal

The corporate seal shall be circular in form and shall have inscribed thereon the name of the association, the year of its incorporation, and the words: "Corporate Seal, State of Illinois."

ARTICLE IV

Objectives

The particular business and objectives of said corporation shall be a non-profit, professional educational association to promote the application of science and engineering to the production, processing, packaging, distribution, preparation, and utilization of foods; by stimulating investigations into technological problems arising therein, and providing a medium for promulgating and discussing the results of such investigations; by stimulating and providing means for the free interchange of technological information and ideas among food technologists; by promoting recognition of the role of food technologists in the technical direction of operations in these fields; all of these endeavors having the ultimate objective of providing better and adequate foods for mankind.

ARTICLE V

Definition of Food Technology

Food Technology may be defined as the application of science and engineering to the production, processing, packaging, distribution, preparation, and utilization of foods. Knowledge of food technology enables its possessor to solve technological problems in one or more of these fields by the application of one or more of the physical or biological sciences, or branches of engineering. It may involve problems in the development of products, processes or equipment; the selection of raw materials; the fundamental changes of composition or physical condition prior to, during, and subsequent to industrial processing; or the nutritional value and health safety of foods.

ARTICLE VI

Memberships

Section 1. *Classes of Members.* The Institute shall have three classes of members: Professional Members, Members, and Student Members. The Council shall determine the class of membership to which an individual is entitled. Wherever used in this Constitution, when referring to members of the Institute or classes of memberships, the words "member" or "membership" if not capitalized or otherwise qualified, shall mean members or memberships of all classes except Student.

Section 2. *Professional Members.* Any person who is ethically qualified, and who has had training and experience in food technology as defined in Article V, or any person who in the opinion of the Council is recognized as distinguished in the contributing sciences as they apply to foods, shall be eligible to be a Professional Member of the Institute. The minimum training which shall qualify a candidate for eligibility for Professional Member is, in general, graduation from a college, university, or similar institution in which he has majored in one or more of the sciences or branches of engineering associated with food technology. The minimum experience which shall qualify a candidate for eligibility for professional membership shall be three years experience in food technology. The Council may, at its discretion, waive any or all of the foregoing requirements in the case of a person who, through long experience has distinguished himself in the field of food technology.

Section 3. *Members.* Any ethically qualified person, active in special or limited aspects of food technology as defined in Article V, who is an administrator, director or executive under whose jurisdiction operations in food technology are conducted; or who is engaged in the dissemination of knowledge of food technology; or one whose work requires a general knowledge of the broad principles of food technology as it applies to the products, processes or equipment with which he or she is concerned; or one scientifically trained in and who has entered a career in food technology; shall be eligible to become a Member.

Section 4. *Student Members.* Any ethically qualified person who has never been a Professional Member or Member of the Institute, who is registered as a student in an educational institution with at least Junior (third year) standing, who is a candidate for a Bachelor's or higher degree in one or more of the sciences or branches of engineering associated with food technology, shall be eligible for membership as a Student Member. This classification shall be his status only until the end of the calendar year in which he completes his schooling. When graduated and otherwise qualified as defined in Section 3 of this Article, a Student Member may, upon application, be elected to Membership.

Section 5. *Membership Privileges.* All classes of members shall enjoy the privileges of the Institute with the following exceptions:

a. Only Professional Members may hold the following offices or appointments:

(1) President
(2) President-Elect
(3) Councilor-at-Large
(4) Regional Section Councilor
(5) Regional Section Chairman
(6) Member of the Committee on Programs
(7) Member of the Committee on Qualifications
(8) Member of the Committee on Nominations

b. Only Professional Members may vote in National elections or on Institute matters.

c. Members may hold Regional Section offices other than Chairman or Regional Section Councilor, and may vote in Regional Section elections and on Regional Section matters.

d. Student Members are not eligible to hold office in or vote on Institute or Regional Section matters.

Section 6. *Membership Applications.* The Executive Secretary shall supply suitable application forms to persons who are seeking membership in the Institute. An applicant for membership shall be considered nominated when three members who know him personally or by general reputation have endorsed his application. An applicant for Student membership shall be con-

sidered nominated when one or more members who are members of the faculty of his educational institution have endorsed his application.

Section 7. *Dues.* Professional Members, Members, and Student Members shall pay such dues as may be determined by the Council.

Section 8. *Withdrawal of Membership.* Any type of membership shall terminate by death, voluntary withdrawal, or otherwise, in pursuance of this Constitution. The right of a member to vote, and all other rights, privileges and interests in the Institute, its rights, privileges, and property, shall cease upon termination of membership. Any member may, by giving written notice to the Executive Secretary of such intention, withdraw from membership.

Section 9. *Termination of Membership.* For cause, any membership may be suspended or terminated. Sufficient cause for such suspension or termination of membership shall be violation of this Constitution or any agreement, rule, or practice properly adopted by the Institute, or failure to pay membership dues, or any other conduct prejudicial to the Institute. Such suspensions and terminations shall be by two-thirds vote of the entire membership of the Council, provided that, except in the case of suspension or termination for non-payment of membership dues, a statement of the charges shall have been mailed by registered post to the last recorded address of the member at least fifteen (15) days before final action is taken thereon. This statement shall be accompanied by a notice of the time and place of the meeting of the Council, at which time the charge shall be considered, and the member shall have the opportunity to appear in person, or by representative, and present any defense to such charges before action is taken thereon. Membership dues for any calendar year become due on the 1st day of that year. Any member whose dues are sixty (60) days past due shall be suspended and that member's subscription to the journal terminated. Members suspended for non-payment of dues may be reinstated at any time upon payment of the current year's dues.

ARTICLE VII

Transaction of Business

Section 1. *Management.* The management of affairs, business and concerns of the Institute shall be vested in a Council, consisting of the President, the President-elect, the most recently retired President, ten (10) elected Councilors-at-Large, and the duly elected representatives of the Regional Sections of the Institute, as provided herein.

Section 2. *Officers and Council.* The officers of the Institute shall be a President, a President-elect, a Treasurer, and an Executive Secretary. The President-elect and the ten Councilors-at-Large shall be elected as provided herein. The Treasurer and the Executive Secretary shall be appointed annually by the Council and shall be eligible for reappointment at the discretion of the Council. Elected officers and Councilors-at-Large shall not be eligible for re-election until the next election following the expiration of their term of office, except as provided in Article VIII, Section 4. The President-elect shall be elected annually for a term of one (1) year, following which term the President-elect shall succeed to the office of President for a term of one (1) year. Five (5) Councilors-at-Large shall be elected annually for a term of two (2) years. The terms of office of elected officers and Councilors-at-Large shall start at the close of the annual meeting of the Institute following the election, or in the absence of an annual meeting, then at the close of the annual meeting of the Council held in lieu thereof. They shall serve until their successors have been duly elected and installed.

Section 3. *Regional Section Representatives.* Each Regional Section shall be authorized to elect one (1) Councilor plus one (1) additional Councilor for each one hundred (100) members in excess of one hundred (100) members accredited to that Regional Section. Regional Section Councilors shall be considered elected to the Council of the Institute upon certification of such choice by the Secretary of the authorized Regional Section to the President and the Executive Secretary of the Institute. Only members residing within the prescribed area of a Regional Section shall be counted in determining Regional Section representation on the Council.

Section 4. *Meeting of the Council.* The regular annual meeting of the Council shall be held, without other notice than this Section of the Constitution, at the same time and place as the annual meeting of the members of the Institute.

Section 5. *Special Meetings of the Council.* The President may, when he deems it necessary, or the Executive Secretary shall, at the request in writing of ten (10) members of the Council, issue a call for a special meeting of the Council, and only fifteen (15) days notice shall be required for such special meeting. In lieu of a special meeting the President may, from time to time, direct the Executive Secretary to submit to the Council questions to be decided by mail vote. Twenty (20) days after the mailing of such a question the Executive Secretary will transmit to the President the replies received from the members of the Council. Two-thirds of the Council shall constitute a quorum for such Council action.

Section 6. *Quorum.* At all meetings of the Council, a majority of the members of the Council shall constitute a quorum for the transaction of business; but less than a quorum may adjourn such meeting from time to time, without further notice, until a quorum is present, except as otherwise provided in this Constitution. Any action taken at a meeting of the Council at which a quorum is present, by a majority of the members of the Council constituting such quorum, shall be deemed to be the action of the Council, except in matters requiring a majority of the entire Council, or a prescribed percentage of the entire Council.

Section 7. *Executive Committee.* There shall be an Executive Committee of the Council, consisting of the President, the President-elect, the most recently retired President, and five (5) members elected by the Council from among its own members, by such procedure as it may prescribe. The Executive Committee shall exercise for and on behalf of the Council all of the functions the Council may authorize by resolution. Five (5) members of the Executive Committee shall constitute a quorum for the transaction of business.

Section 8. *Council Vote.* Only elected or otherwise qualified members of the Council shall vote on questions brought before the Council. Officers or agents appointed by the Council and other persons invited by the Council may participate at Council meetings but shall have no vote.

ARTICLE VIII

Nomination and Election of Officers and Councilors-at-Large

Section 1. *Nomination of Officers and Councilors-at-Large.* The nominees for officers and Councilors-at-Large shall be selected by the Committee on Nominations. Not less than two nor more than three nominees shall be selected for each position to be filled. The selections will be made and certified to the Executive Secretary and the President at least four (4) months prior to the annual meeting of the Institute. Prior to certifying the results to the Executive Secretary and the President, the Chairman of the Nominating Committee will submit to each member of the Committee a tabulation of the voting showing how each member voted. These tabulations will be signed by each member and accompany the certification of the selections made to the Executive Secretary, who will retain them until the end of the next annual meeting, after which they may be destroyed.

Section 2. *Election of Officers and Councilors-at-Large.* At least three (3) months prior to the annual meeting the Executive Secretary shall mail to each member entitled to vote, a printed copy of an election ballot, carrying the names of the nominees selected by the Committee on Nominations. Accompanying the ballots shall be brief biographical sketches of the candidates, together with a mailing envelope and an inner envelope. Each member shall vote for only one (1) candidate to fill each vacancy. The marked ballots shall be placed in the inner envelopes and sealed. Neither the ballot nor the inner

envelope shall be signed or otherwise identified by the voter. The inner envelope will then be placed in a second envelope, on which the voting member will inscribe his name and address in the space provided thereon. Election ballots to be considered must be received by the Executive Secretary not later than forty-five (45) days after original mailing by him. The Executive Secretary shall then verify the eligibility of the voter, remove the sealed ballots from the outer envelopes, and forward the sealed ballots of eligible voters to a Committee consisting of not less than three (3) nor more than five (5) tellers who shall have been appointed by the President. The tellers shall count the ballots, tabulate the results, and transmit certified copies of the tabulation to the President and Executive Secretary not less than thirty (30) days prior to the annual meeting. In the event of a tie between two or more candidates the results will be decided by a majority vote of the Council at the annual meeting. The President shall announce the results of the election in the next succeeding issue of the Journal and in person or by proxy at the annual meeting.

Section 3. *Eligibility of Candidates.* It is the responsibility of the Executive Secretary to insure that all persons whose names appear upon an election ballot are eligible under the provisions of this Constitution to hold the office for which they are candidates. In any case where the name of an ineligible person is submitted the Executive Secretary will call upon the Committee on Nominations to furnish the name of an eligible person.

Section 4. *Vacancies.* Any vacancy occurring in any elective office or among Councilors-at-Large shall, until the next annual election, be filled by the Council. Any person so elected to office or as Councilor-at-Large may be a candidate to succeed himself at the next annual election.

ARTICLE IX

Meetings

Section 1. *Annual Meetings.* The annual meeting of the members of the Institute for the presentation of papers and the transaction of business shall be held at such time and place as may be designated by the Council. Notice of the time and place of such annual meeting shall be served by the Executive Secretary on each member of the Institute by mail or by publication in the journal of the Institute not less than ten (10) nor more than forty (40) days prior to the meeting. If mailed the notice shall be addressed to each member at his or her address as it appears on the membership records of the Institute. Should the Council decide that unusual conditions make it inadvisable to hold an annual meeting of the members of the Institute, then a meeting of the Council shall be held in lieu thereof.

Section 2. *Special Meetings.* Special Meetings of the Institute may be held at such time and place as may be designated in the notice of the meeting, and may be called at any time by a two-thirds vote of the entire membership of the Council. Notice of time, place and purpose of every special meeting shall be served by the Secretary by mail upon each member of the Institute not less than ten (10) nor more than forty (40) days prior to the meeting. The notice shall be addressed to each member at his or her address as it appears on the membership records of the Institute.

Section 3. *Quorum.* At each annual or special meeting of the Institute there shall be present at least five percent (5%) of the members entitled to vote, either in person or by proxy, in order to constitute a quorum for the transaction of business; but less than a quorum may adjourn such meeting until such time as a quorum is present.

ARTICLE X

Fiscal Procedure

The fiscal year of the Institute shall be fixed by the Council. The Council shall prepare an annual budget to be submitted to the members of the Institute or published in the journal at least thirty (30) days prior to each annual meeting. Funds to meet this budget may be provided by members' dues or otherwise.

ARTICLE XI

Committees

Section 1. *Finance Committee.* The President-elect shall appoint a Finance Committee. The Finance Committee shall have such powers and duties as shall be assigned to it by resolution of the Council. The President of the Institute shall be an ex-officio member of the Finance Committee.

Section 2. *Committee on Qualifications.* The President-elect shall appoint a Committee on Qualifications. This Committee shall examine the applications of candidates for membership and accept or reject such applications. The Committee shall also determine the class of membership for which an applicant is accepted. The determinations of the Committee shall be subject to review by the Council at any time.

Section 3. *Committee on Programs.* The President-elect shall appoint a Committee on Programs. This Committee shall prepare the programs for the annual meeting. The President and the President-elect shall be ex-officio members of this committee.

Section 4. *Committee on Regional Sections.* The President-elect shall appoint a Committee on Regional Sections. This committee shall have authority to recommend the chartering of additional sections and fix the boundaries between sections. The action of this committee shall be subject to review by the Council at its next regular or special meeting.

Section 5. *Committee on Nominations.* The President-elect shall appoint a Committee on Nominations, consisting of the Chairmen of all active Regional Sections and five (5) members at large. The President-elect shall designate one member of the Committee as Chairman.

Section 6. *Other Committees.* The President or the President-elect may appoint such other committees as may be deemed desirable. Each committee shall have such duties as shall be assigned to it.

Section 7. *Committees Appointed by President-Elect.* All Committees appointed by the President-elect shall serve during his term as President, except that the Committee on Programs may also function during his term as President-elect for the purpose of formulating plans for the ensuing year.

ARTICLE XII

Officers

Section 1. *Officers.* The Institute shall have as Executive Officers a President, a President-elect, a Treasurer, an Executive Secretary, and such other officers as the Council may determine.

Section 2. *President.* The President shall preside at all meetings of the Institute, the Council, and the Executive Committee. He shall have power to call meetings of the Council and the Executive Committee. He shall perform other duties and exercise other powers as the Council shall from time to time delegate to him.

Section 3. *President-Elect.* In the absence of the President the President-elect shall perform all the duties and shall have all the powers normally conferred upon the President. During his term as President-elect he shall organize his committees and formulate plans for his term as President. The President-elect shall present to the Council at its annual meeting immediately preceding his induction into the office of President, a list of names of the individuals who are to serve on the various committees required under the provisions of this Constitution. He shall perform such other duties and shall have such other authority as the Council may from time to time assign him.

Section 4. *Treasurer.* Subject to the power and duties conferred upon him by the Council, the Treasurer shall have supervision over the funds, securities, receipts and disbursements of the Institute. He shall cause all funds received by the Institute to be deposited in the name of the Institute in such bank or

banks, trust company or trust companies, as the Council may designate. He shall cause to be entered regularly in the books of the Institute to be kept for that purpose, full and accurate account of all monies received and paid by him on account of the Institute, and he shall submit a statement of his cash account at each annual meeting of the Council, and from time to time as required by them such information relative to the funds of the Institute as may be required. He shall, in general, perform all the duties incident to the office of Treasurer, and shall perform such other duties and have such other authority as from time to time may be assigned to him by the Council.

Section 5. *Executive Secretary.* The Executive Secretary shall keep the minutes of all meetings of the Institute, the Council, and the Executive Committee thereof, in books provided for that purpose. He shall keep a roll of the members of the Institute, and such other books of record and account as the Council may direct. He shall perform such other duties as may from time to time be determined by the Council. He shall be required to give bond for the faithful performance of his duties in such form and amount as the Council may determine.

Section 6. *Subordinate Officers and Agents.* The Council may appoint other subordinate officers or agents, each of whom shall hold office for such period, have such authority, and perform such duties as the Council may from time to time determine. The Council may delegate to any officer or agent the power to appoint any subordinate officer or agent and prescribe his respective authority and duty.

Section 7. *Compensation.* The employees or agents to be compensated and the extent of the compensation of such employees or agents shall be determined by the Council, unless otherwise provided for in this Constitution.

Section 8. *Resignations.* Any officer may resign at any time by giving written notice to the President or Executive Secretary. Any such resignation shall take effect upon its being accepted by the Council.

ARTICLE XIII

Contracts, Loans, Deposits, Checks, Drafts, Etc.

Section 1. *Contracts.* Except as otherwise provided in this Constitution, the Council may authorize any officer or officers, agent or agents, to enter into contracts, to execute or draw up any instruments on behalf of the Institute, and such authority may be general or confined to specific instances.

Section 2. *Loans.* No loans shall be contracted on behalf of the Institute, and no negotiable papers other than checks, shall be issued in its name, unless and except as authorized by a majority vote of the Council.

Section 3. *Deposits.* All funds of the Institute shall be deposited from time to time to the credit of the Institute in such banks or trust companies or with such other depositories as the Council may select, or as may be selected by an officer or officers, agent or agents, of the Institute to whom such power may from time to time be designated by the Council.

Section 4. *Checks, Drafts, Etc.* All notes, drafts, acceptances, checks, endorsements, or other evidence of indebtedness shall be signed by such officers of the Institute as the Council may from time to time by resolution provide.

Section 5. *Investments.* The funds of the Institute may be invested and reinvested in such manner and for such purposes as may be lawful and authorized by resolution of the Council.

Section 6. *Disposition of Surplus Funds.* Any surplus in excess of normal operating requirements, plus a reasonable reserve to be determined by the Council, shall be used to increase man's knowledge of food technology and to provide additional educational facilities by the establishment and maintenance of scholarships and fellowships to deserving students; grants and endowments to educational institutions or scientific publications; and awards for outstanding contributions of new knowledge in the field of food technology. This shall be done under such rules and regulations as the Council may prescribe; provided that no preference or discrimination shall be made therein because of the race or religious creed of any individual or individuals.

ARTICLE XIV

Limitation of Liability

Notwithstanding anything to the contrary contained in this Constitution, no agreement, contract, or obligation (other than a check), involving the payment of money or the credit or liability of the Institute for more than One Thousand Dollars ($1,000.00) shall be made without the approval of the Council.

ARTICLE XV

Subsidiary Organizations

Section 1. *Regional Sections.* The Council shall grant authority in the form of a charter to organizations of members of the Institute living in the same geographical region, for the establishment of a Regional Section, when such organization shall have complied with the conditions set forth in the By-Laws of the Institute.

Section 2. *Regional Section Associates.* Persons not qualified for membership in the Institute, but who have an interest in food technology may be admitted to associate membership in a Regional Section, provided that the total number of such associate members does not exceed twenty-five percent (25%) of the total membership of that Regional Section. Associate members shall not be counted in determining the representation of a Regional Section on the Council of the Institute.

Section 3. *Membership in Regional Sections.* Membership in a Regional Section shall be entirely voluntary on the part of members of the Institute. A member may or may not belong to the Regional Section wherein he resides, or any other Regional Section, or may belong to two or more Regional Sections, as he chooses. In no case shall any member be counted more than once in determining Regional Section representation on the Council.

Section 4. *Dissolution of Regional Sections.* When any Regional Section shall cease to function as a Section of the Institute for a period of more than one year, or shall hold less than three meetings in any one year, or if its membership shall be less than twenty-five (25) members of the Institute for a period of one year, the Council may terminate the charter of such Regional Section. Such dissolution of a Regional Section shall not affect the membership standing in the Institute of the members of that Section.

Section 5. *Student Chapters.* The Council may grant authority in the form of a certificate to organizations of Student Members of the Institute attending any one educational institution for the establishment of a Student Chapter when the organization has met the conditions set forth in the By-Laws of the Institute.

ARTICLE XVI

Amendments

All or any part of the Constitution of the Institute, now or hereafter adopted, shall be subject to amendment, alteration, or repeal, or a new Constitution may be adopted by a majority vote of the members voting in the manner prescribed herein. Amendments, alterations, or repeal of any part of the Constitution or the adoption of a new Constitution may be proposed by a two-thirds majority vote of the Council or a majority vote of two or more Regional Sections approved by a majority vote of the Council. When thus proposed the Executive Secretary shall submit the question by mail to the members entitled to vote. Thirty (30) days after mailing, the ballots received shall be counted in the manner prescribed in Article VIII, Section 2, for the election of officers and Councilors-at-Large.

ARTICLE XVII

Dissolution

Section 1. *Voluntary Dissolution.* In the event dissolution of the Institute appears desirable, the Council shall adopt a resolution recommending the dissolution of the Institute, together with a plan of distribution, and direct that the question of such

dissolution and plan of distribution be submitted to the voting members of the Institute. The Executive Secretary or his office shall send a copy of such resolution by mail to each voting member not less than thirty (30) days nor more than forty (40) days before the date the ballots are to be counted. The ballots shall be counted in the manner prescribed in Article VIII, Section 2, for the election of officers and Councilors-at-Large. The resolutions to dissolve the Institute and to adopt a plan of distribution will each become effective upon approval of two-thirds of the members voting.

Section 2. *Distribution of Assets.* Upon the dissolution of the Institute the assets shall be applied and distributed first to the final payment and discharge of all liabilities and obligations of the Institute. Any assets held upon condition requiring return, transfer, or conveyance upon the dissolution of the Institute shall be distributed in accordance with such requirements. Any remaining assets shall be distributed pursuant to the plan of distribution adopted, to such similar associations as may be designated therein.

ARTICLE XVIII

Waiver of Notice

Any person entitled to any notice required to be given under the provisions of the General Not-for-Profit Corporation Act or under the provisions of the articles of incorporation or this Constitution, may sign a waiver thereof in writing which shall be deemed equivalent to the giving of such notice.

ARTICLE XIX

Informal Action by Members

Any action required to be taken at a meeting of the members may be taken without a meeting if a consent in writing, setting forth the action so taken, shall be signed by all of the members entitled to vote with respect to the subject matter thereof.

ARTICLE XX

By-Laws

The Council may by a majority vote adopt a set of By-Laws for carrying out the provisions of this Constitution, and may from time to time amend, alter, or repeal such By-Laws.

Book Review

LEBENSMITTELTECHNOLOGIE: Rudolf Heiss. 338 pp. + index, with 223 text-illustrations, J. F. Bergmann, Munich (1950). Price 27.60 DM (paper cover); 29.70 DM (cloth).

The subtitle to Dr. Heiss's book reads: "Einführung in die Verfahrenstechnik der Lebensmittelverarbeitung." ("Introduction to the methods of food technology.") The author modestly refers to it as a sketch (Abriss) to complement his earlier work, "Anleitung zur Lagerung von Lebensmitteln." ([Guide to] "The storage of foods.")

Five motives are listed for the assembling of the material on which it is based: rehabilitation of factories, orientation on power consumption to ensure adequate coal or electricity, orientation on the nutritional value and improvement of byproducts, to determine whether Germany lags in the industrial application of developments made possible by research, and finally in the general improvement of management.

The material is organized under four heads: I. Technical primary processes: subdivision and pressing, mixing, separation; various technological processes: sterilization, ion-exchange, etc., and industrial materials, i.e., containers. II. Production processes, predominantly mechanical. As examples, milling of cereals, preparation of margarine, chocolate, pressing of oil seeds, manufacture of starches, milk, butter, pectin, gelatine may be cited to indicate the scope. III. Production processes, predominantly thermal in nature. These include drying, roasting (coffee-ersatz!), evaporation, sterilization, freezing, crystallization, rendering (of fats), hydrolyses (starch to glucose, artificial honey, etc.). IV. Biochemical technology, including such diverse aspects as yeast extract, wood sugar, sauerkraut, brewing, wine, bakery malt and cheese products.

The foregoing is encompassed in 337 pages of text. A reviewer is necessarily in a quandary at this stage. Compression is obviously great. Thus wine, including sparkling wines, fruit and berry wines, is treated in 6 pages. The principles of drying are discussed, for the most part descriptively, except for the Stephan diffusion law, in 10½ pages. The treatment does not follow the pattern of a chemical engineering text such as Walker-Lewis-McAdams'.

Thus, while the material may have been gathered for such purposes as "Orientierung über den Energieverbrauch," it cannot be said to be reflected very clearly in the text.

Dr. Heiss appreciates that developments in the United States are based on the rapid adoption of technical and scientific advances. It is therefore regrettable that so much of our recent literature has clearly been unavailable to him. This is particularly evident in some sections, e.g., ion-exchange, dried eggs, though it should be added that these are extreme cases.

As it stands, the book will necessarily have limited appeal in the United States. As more of the literature becomes available and can be incorporated into the text of subsequent editions, it may well serve as an introductory text to the field. Notwithstanding these limitations, this book is evidence of the vitality of thought in what, five years ago, was a war-shattered country.

G. MACKINNEY.

News of the Institute

(Continued from page 12 preceding technical papers)

Present assumption of responsibilities and performance of duties by an increasing number of the young members of the Section gives reasonable assurance that the history of the Chicago Section is still definitely in the making and that the Chicago Section will continue to grow in size and accomplishments as the Institute grows.

Thank you.

Regional Section News

NORTHERN CALIFORNIA SECTION

The August meeting was held on the 17th at El Jardin Restaurant in San Francisco. The speaker was Dr. B. N. Dickinson, Director of Research, Chemical Process Co. of Redwood City. His subject: "Ion Exchange Resins: A New Tool for the Food Technologist." Dr. Dickinson received his Ph.D. from Cal. Tech., and since about the beginning of World War II has been concerned with the field of ion exchange, undertaking research on the use of resins as catalysts and oxygen adsorbents. His most recent work has been spent as director of technical selling and field service for Chemical Process Co.

About 70 members and guests attended the meeting.

OHIO VALLEY SECTION

The fall meeting of the Ohio Valley Institute of Food Technology will be held in Dayton, Ohio, October 14. The Frigidaire Division of General Motors will be the host. The theme of the meeting will be "Refrigeration from the Cradle to the Grave." Dan McCoy, former councilor for the Ohio Valley section is in charge of the program. Tours through Plants 1 and 2 will be included.

PERSONNEL

JOHN E. BREKKE, formerly at the Western Regional Research Laboratory of the Bureau of Agricultural and Industrial Chemistry at Albany, California, has been transferred to the Bureau's Fruit and Vegetable Products Laboratory at Pullman, Washington.

G. HARVEY BENHAM, formerly associate professor of biochemistry at Illinois Institute of Technology, has been named supervisor of biochemistry at Armour Research Foundation of the Illinois Institute of Technology. A native of Great Britain and a naturalized U. S. citizen, Dr. Benham received his doctorate in 1938 from the University of London, England.

DAVID JORYSCH, technical director of the flavor division of H. Kohnstamm & Co., Inc., New York City, recently returned from a trip to Vienna, Austria, where he received the Doctor of Science Degree from Vienna Polytechnic Institute.

CHARLES G. KING, Scientific Director of the Nutrition Foundation and Professor of Chemistry, Columbia University, received the honorary degree of Doctor of Science from the State College of Washington at their spring commencement exercises in recognition of his research and teaching in the field of chemistry.

SHERMAN LEONARD, previously with Schuckl, has become associated with St. Claire Packing Co., Inc., of San Jose, California.

HERMAN PHAFF has gone to Europe on a six months' Sabbatical leave from the University of California at Berkeley. .

ROBERT H. STEINER has been appointed Research Coordinator of the Atlas Mineral Products Co., Mertztown, Pennsylvania. Dr. Steiner received his doctorate from the University of Pittsburgh and has been employed by the Firestone Tire and Rubber Co. for the past seven years.

LEONORA (HOHL) and ERWIN STROHMAIER announce the birth of a daughter, Louise Ann; weight, 8 pounds 4½ ounces.

PAUL KOLACHOV of Joseph E. Seagram & Sons, Inc., is in Brazil to attend the Fifth International Congress of Microbiologists. He is also scheduled to speak before the Brazilian Chemical Society in Rio de Janeiro and before another group in São Paulo. Later on he will address the Mexican Chemical Society and Chemical Engineers in Mexico City and the Academy of Science of Argentine at the University of Buenos Aires. Busy fellow, isn't he?

KEN WILDER has taken over the Directorship of the Schuckl Laboratory.

NECROLOGY

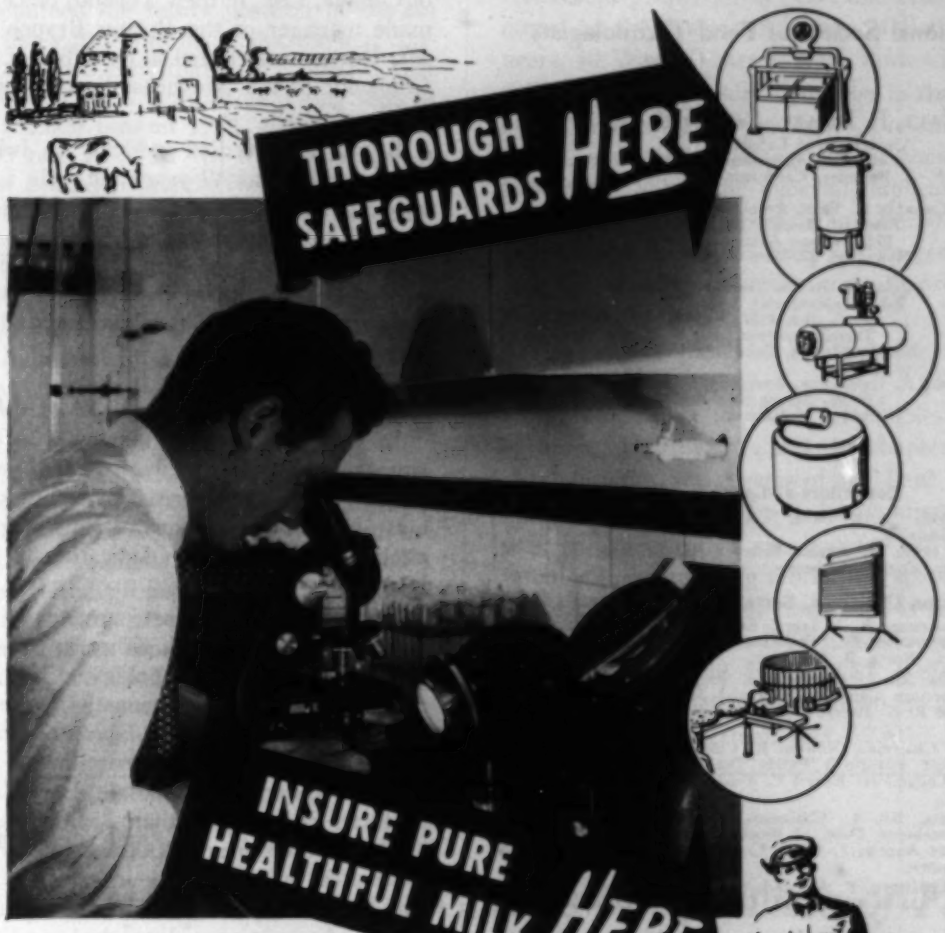
WILLIAM C. BAINBRIDGE of Kohnstamm & Co., Inc., died on July 6th after a long illness. He was 67 years old. He is survived by his wife and one daughter.

Mr. Bainbridge received his Bachelor's Degree from Polytechnic Institute of Brooklyn in 1906 where he later was an instructor in Chemical Engineering. In 1906 he joined the Kohnstamm organization, the first producers of certified colors. While with Kohnstamm, Mr. Bainbridge did outstanding work in color chemistry and research, and was largely responsible for the development of certified colors. It was his technical skill and energetic supervision that resulted in the certification of harmless food colors by the Federal Government ending an era of unsafe coloring matter in foodstuffs.

Mr. Bainbridge was the author of many scientific papers; he was a mamber of Sigma Xi, Phi Lambda Upsilon, Professional Engineers, New York Academy of Science, American Chemical Society, Fellow, American Institute of Chemists, member American Institute of Chemical Engineers, American Society of Testing Materials, and American Association of Textile Colorists and Chemists. He was a referee of the Association of Official Agricultural Chemists.

HARRY P. BOWRA, manager of the Boston Branch of Fritzsche Bros., Inc., died on June 26th. He was 37 years old. Mr. Bowra was born in Toronto, Canada, and following his graduation from the Ontario College of Pharmacy he entered the employ of Fritzsche Bros.

(Continued on page 22)



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Membership

Write to nearest regional secretary, if within an area covered by a regional section, or to the Executive Secretary of the Institute, for an application form and information regarding qualifications and classifications.

Regional Section News

(Continued from page 20)

of Canada, Ltd., in their Toronto office. In 1948 he was made manager of the Boston Branch of the company. Mr. Bowra was elected to the office of Regional Section Councilor of the Northeast Section of the Institute in 1950.

BYRON LESLIE died suddenly on July 14th of a heart ailment. He was 49 years old. He is survived by his wife and three daughters. Mr. Leslie's work in the field of food technology was well known, and he has been employed by several food manufacturing plants on the west coast. He was a charter member of the Northern California Section of the Institute and was quite active in its formative years.

NEW RESEARCH LABORATORIES

In this land where industry lives on technical advancement and dies almost overnight when it falters in its purpose to keep abreast of technics that mean products of ever improved quality, one is accustomed to read almost monthly of the dedication of a new industrial laboratory.

During the spring just passed, two new laboratories were dedicated to work either in or allied closely with the field of food technology. Both laboratories are dedicated to the advancement of man's physical well-being. One was the new laboratory of National Dairy Co., established on the magnificent former estate of W. K. Vanderbilt at Oakdale, Long Island. These laboratories cover more than 85,000 square feet of floor space in the former 100-room Vanderbilt home and associated buildings. Their splendid equipment is designed to supplement the inspiration of their lovely surroundings in providing ideal conditions for effective research. The main building stands on a knoll overlooking a placid stream in the center of 90 beautiful acres.

These laboratories are devoted to the development of new food products or new by-products in the dairy field. Dedication was on June 2, 1950, in an impressive ceremony.

The other laboratory is not primarily a food laboratory but is none-the-less dedicated to the cause of improved health for mankind. The Winthrop-Sterling laboratories dedicated a beautiful new building and facilities in Renssalaer, New York, on May 17-18. This building, an impressive three-story brick structure, is located on spacious grounds, beautifully landscaped, on a hill overlooking a typical Hudson valley industrial scene—also ideal inspiration for industrial research workers. Antibiotics and other drugs will benefit from the activities of a large staff of scientists and technologists working in these laboratories. Dedication included two sessions of addresses on clinical and biochemical progress of the past fifty years and was closed with a banquet featured by an address by Gov. Thomas E. Dewey. Mr. Dewey described the progress that has been made by the state of New York in bringing about improved medical care of its people.

C. O. B.

WORLD STATUS OF TIN

The International Tin Study Group met in Paris during the last week in March at the Ministry for French Overseas Territories, according to a March 30 Department of State news release.

The Group examined the future position of the tin industry and the likely trends in its production and consumption under assumed conditions. It estimated that world production, which has been 161,000 long tons in 1949, would be 172,000 tons in 1950, 191,000 tons in 1951 and 199,000 tons in 1952. In these estimates it was assumed that conditions conducive to full production and also political and social stability in the main producing countries would exist; it further assumed only production from plant and equipment already in operation, under rehabilitation and under commitment.

Unrestricted consumption of tin for commercial purposes under full industrial production was estimated at 127,000 long tons in 1950, 136,000 tons in 1951 and 140,000 tons in 1952. World consumption of tin in 1949 had been 118,000 tons.

The estimates showed, therefore, that there might be an excess of production over consumption for commercial purposes of about 45,000 tons in 1950 and higher figures later. On the other hand, it appeared very likely that for some time (although the Group could not indicate for how long ahead) substantial tonnages of tin would be absorbed by the United States for strategic stockpiling purposes over and above the demand for commercial purposes.—*Commercial Fisheries Review*, May, 1950.

BOOKLET ON PROPERTIES OF REFRIGERANTS

A handy booklet, "Refrigerant Tables, Charts and Characteristics," containing the complete compilation of refrigerant properties in chart and table form has been issued by the American Society of Refrigerating Engineers, 40 West 40 Street, New York City.

This 93-page booklet is unique in that it contains in one volume tables of properties, pressure-enthalpy diagrams, and Mollier charts for all commonly used refrigerants. While the material duplicates similar data which can be assembled from several textbooks, the form of the tables has been rearranged and improved and the tabular material critically reexamined and brought up to date.

The data in the book has been reprinted from the "Fundamentals Volume" of the ASRE Data Book which was issued in 1949. The tables were compiled by Harry D. Edwards and the chapter on refrigerant characteristics was prepared by Paul B. Reed. The Data Book was edited by B. H. Jennings.

It is believed that the booklet will be particularly valuable in engineering offices and schools where ready reference to refrigerant properties is required. Copies may be obtained from ASRE headquarters, 40 W. 40 Street, New York 18, N. Y., at $1.50 the copy, bound in paper, and $2.00 the copy, bound in cloth—*Am. Soc. Refrig. Eng.* News Item, July, 1950).

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Abstracts

(Continued from page 11)

320J. Process of preparing dried coffee extract.

SCHWARZ, H. W., E. G. HELLIER, AND A. L. SCHROEDER. Assignors to National Research Corporation. 2,504,735, Apr. 18, 1950.

The process of preparing dry, soluble coffee which comprises forming a liquid coffee extract consisting essentially of water and from 30% to 60% by weight soluble coffee solids, providing an evacuated chamber which is maintained at a total pressure of not greater than 4 mm. Hg by means of a water vapor pumping system, substantially continuously introducing said extract into said chamber so as to maintain a substantially constant load on said pumping system and a substantially uniform low partial pressure of water vapor in said chamber, directing said introduced extract onto a heated surface in said chamber to form a film of said extract of a thickness between 0.005 and 0.008 inch on said surface, said surface being heated to a temperature between 150° F. and 200° F., said low pressure and the heat of said surface causing substantially immediate foaming of said film without freezing thereof, maintaining said foaming film on said heated surface under said low total pressure for not less than 4 nor more than 8 minutes without disturbing said film, thereby reducing by evaporation the moisture content of said film to not more than 4% by weight, and then removing said dried extract from said surface.

321J. Frozen food improvements.

NOYES, H. A. 2,504,869, Apr. 18, 1950.

The process of making a cooked frozen product from several food constituents comprising separately preparing and cooking the constituents in usual sized pieces and liquids, separately quick freezing one or more of the cooked prepared constituents, and then further protecting the retention of flavors and tastes of the frozen pieces previous to combining with the other constituents for quick freezing by coating said frozen constituents with a coating of ice.

322J. Means and method for rendering paperboard cartons gastight and packages so produced.

BERGSTEIN, S. 2,506,057, May 2, 1950.

A moisture, vapor and gas-tight package formed of flexible materials and comprising as elements a closed paperboard carton having side and end walls, a preformed gas-tight sleeve of flexible material secured to the blank forming said carton and surrounding peripherally the side walls of said carton and closed by an independent gas-tight seam, and spaced cap-like closure elements overlying the end walls of said carton and overlapping the ends only of said sleeve and forming a moisture, vapor, and gas-tight seal therewith, and comprising each an imperforate skin of flexible gas-proof composition bonded in a gas-tight manner peripherally of said walls to said sleeve, said sleeve serving to bridge the space between said spaced closure elements, and forming therewith a moisture, vapor, and gas-tight enclosure for said paperboard carton and its contents.

323J. Airblast quick freezing of foodstuffs.

NOYES, H. A. 2,506,099, May 2, 1950.

In an airblast quick freezing process for foodstuffs, steps comprising coating such surfaces of the containers as will contact the foodstuff while it is being frozen with a solution having a freezing temperature much lower that than of the foodstuff, filling the foodstuff units into the containers, quick freezing the foodstuff, adding heat to the outside container surfaces and dumping the frozen foodstuff out of the holding container.

NEW TABLES OF FOOD COMPOSITION

The new Handbook of Food Composition Tables, just issued by the U. S. Department of Agriculture to replace an older bulletin written in 1945, will find wide usage in the food industries.

In "COMPOSITION OF FOODS—raw, processed, prepared," the Department's Bureau of Human Nutrition and Home Economics has brought data on nutritive values up to date, included more foods, and introduced new features in an endeavor to keep pace with demands of nutritionists, dietitians, physicians, and others who calculate diets for the well and the sick.

For the first time in one of its publications, the Bureau has added to the data on foods in raw state, information about the nutritive values of frozen foods and cooked foods. Listed are 751 food items from dried almonds to brewer's yeast. Nutrients cited include three minerals and five vitamins. Foods are listed in three tables: one showing nutritive values of each item in terms of a 100-gram edible portion; the next showing values in terms of 1 pound of the food as brought into the house for eating; and a third table (a new feature) showing nutritive values of foods in terms of common household units, such as one cup.

The volume will aid the food processor and technologist to obtain preliminary information on the chemical composition of almost all foods common in the United States and will be most valuable in indicating changes which occur during processing.

Nutritionists and others who calculate diets may obtain free single copies of "Composition of foods—raw, processed, prepared," Agriculture Handbook No. 8, from the Office of Information, U. S. Dept. of Agriculture, Washington 25, D. C. Others may purchase the handbook from the Supt. of Documents, Washington 25, D. C., at 35c a copy.

MANUFACTURE OF MEAL AND OIL UTILIZES HALF OF THE FISHERIES CATCH

About 46 percent of all fishery products landed in the United States and Alaska during 1949 was utilized in the manufacture of fish meal and oil. Because fish meal and oil are used where they are not recognized as fishery by-products, the importance of the fisheries that supply this industry is little known by the public.

On the farm, fish meal is an important ingredient of poultry and hog feeds. In industry, fish oil is utilized in soap, paint, varnish, insect spray, machinery lubricants, printing ink, oil cloth and linoleum, and in industrial processes (like leather tanning and aluminum castting). Thus, meal and oil from fish are converted into products which are used daily by everyone.

The raw material is derived from two sources—whole fish caught specifically for reduction purposes and fish waste from filleting, canning, and other fisheries processing. Fully 2,250 million pounds of fish was processed by meal and oil manufacturers in 1949.

Rendering plants utilize two principal species of fish —menhaden and pilchards. The menhaden catch last year was 1,069 million pounds, while that of pilchards amounted to 640 million pounds.—*Commercial Fisheries Review*, June, 1950.

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can solve your gelling thickening, suspending, or stabilizing problems

Krim-Ko's uniform, established lines of seaplant derivatives—KRIM-KOgel, KRIM-KOloid, KRIM-KOld, KRIM-KO Tendergel and *CARRAGAR*—have proven remarkably effective and dependable in a wide range of food, industrial and pharmaceutical applications. These proven, uniform colloid agents can be as useful to you as they are to some of this country's largest and most successful manufacturers and processors. Tests have proven that they gel, thicken, suspend and stabilize better than most materials heretofore obtainable. Their dependable uniformity makes them especially easy to use.

Send in your problem to our laboratory—no obligation

Krim-Ko maintains a complete well-staffed laboratory devoted exclusively to the solution of problems in this field. If you have a problem involving emulsifying, thickening, suspending or stabilizing—send it in to us. Our laboratory will make their recommendations in confidence—without obligation or cost. Or if you prefer—we will send you sufficient working samples for your own laboratory. Write today.

KRIM-KO Corporation

SEAPLANT PRODUCTS DIVISION

NEW BEDFORD, MASS.

IN-PLANT CHLORINATION AT THE WINTER GARDEN COMPANY, KNOXVILLE, TENNESSEE

I-34

SAVES MONEY--Over $750 was saved in 3 months on labor alone through more efficient clean-up by means of In-Plant Chlorination at this plant.

ELIMINATES SLIME--According to the company president, Mr. W. Ed. Booker, "***Three days after chlorination was started the floors were spotlessly clean and remained so throughout the season.***"

CONTROLS BACTERIA--Reduction in bacterial counts of up to 93% were obtained by the Winter Garden Company on inspection belts and such equipment as graders, snippers, etc., with In-Plant Chlorination.

In-Plant Chlorination can bring these and other advantages to your plant, too. Just call your nearest W&T Representatives for complete information.

WALLACE & TIERNAN COMPANY, INC.

CHLORINE AND CHEMICAL CONTROL EQUIPMENT

NEWARK 1, NEW JERSEY • REPRESENTED IN PRINCIPAL CITIES

GERMAN COMMERCIAL ELECTRICAL FISHING DEVICE

Fishery leaflet 348, "German Commercial Electrical Device" contains the details available to date on the German electrical fishing device. The inventor, a German physicist, reasoned that fish could be caught by placing two electrodes into the water and putting a varying positive voltage on one electrode. The positive voltage on this electrode (the anode) would cause the fish to point towards it. The varying electric field along the spine of the fish would cause the tail muscles to contract and relax, moving the tail and propelling the fish into a net near the anode.

The Bremerhaven equalization-fund tax (derived from taxes imposed on the German fishing industry) has assigned $14,280 to be used to finance research on electro-fishing.

This 16-page leaflet contains a report on the German commercial electrical fishing device as well as translations of the following articles concerning electrical fishing methods which were published in a German periodical: "Electric Fishing at Sea"; "Use of Electro-Physiological Effects in Ocean Fishing"; "Experiences with Electric Fishing in Inland Waters"; "Electrocution of Whales"; and "On Electrocution of Whales."

Free copies of this publication are available upon request from the Division of Information, U. S. Fish and Wildlife Service, Washington 25, D. C.

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EMPLOYMENT NOTICES

Position wanted, salesman or laboratory assistant. Meat packing sales experience, Frozen Food Technology, Bacteriology, Chemistry background. Single, 28 years old. Reply Box 111, Institute of Food Technologists, 176 W. Adams St., Chicago 3, Illinois.

Wanted, Food Technologist, research and quality control experience with canned foods. Experience with frozen foods desirable but not essential. Give educational background, military and professional experience, and salary expected. Reply Box 112, Institute of Food Technologists, 176 W. Adams St., Chicago 3, Illinois.

Wanted, Food Production Man, chemist or chemical engineer, with some experience in production of food products. Good possibilities for rapid advancement for young man willing to move to New Orleans. Reply Box 113, Institute of Food Technologists, 176 W. Adams St., Chicago 3, Ill.

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Holiday Specialties are TASTIER when Flavored by FRITZSCHE

Some food manufacturers are beginning to wonder why the promotion and sale of fruit cakes, mince meat and plum puddings should be limited almost exclusively to the seasons of Thanksgiving and Christmas, when surely, these delectables are just as tasty in May, June or July. Many of these same manufacturers are *insuring a larger market* for their specialties by making them extra palatable with FRITZSCHE'S Imitation Rum, Brandy and Mince Meat Flavorings. For details, write:

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PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N. Y.
BRANCH OFFICES and *STOCKS: *Atlanta, Ga., Boston, Mass., *Chicago, Ill., Cincinnati, O., Cleveland, O., *Los Angeles, Calif., Philadelphia, Pa., San Francisco, Calif., *St. Louis, Mo., *Toronto, Canada and *Mexico, D. F. FACTORY: Clifton, N. J.

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1. Diversol penetrates thoroughly . . . and it's fast-acting!
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So, be sure to be safe . . . use DIVERSOL! Packed in 125 lb. drums and 325 lb. barrels.

Call your Diversey Man today! Ask him to show you how you can PROFIT with Diversey Planned Sanitation and the Diversey System of Modern Insect Control!

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the D&O detector says "look to SPISORESINS"

The newest advance in the art of flavoring

SPISORESINS, the result of six years of research and development in the D&O Laboratories, are now offered to food manufacturers seeking the best flavoring ingredients. SPISORESINS are special extractions of dry spices and contain all of the flavoring qualities that are in the spices themselves, and are not to be confused with essential oils.

SPISORESINS of all important spices such as Allspice, Cinnamon, Clove, Garlic, Nutmeg, Onion, Black Pepper and Sage are available. The Dodge & Olcott Laboratories have also developed sixty SPISORESINS MIXTURES including every important flavor used in the meat processing industry. Bologna, Braunschweiger, Deviled Ham, Liverwurst, Turkey Loaf and Salami illustrate the complete flavor range of SPISORESINS.

SPISORESINS, in addition to being paramount flavors, are easy to use. SPISORESINS are even-spreading of uniform strength, properly balanced and are free from the bacteria, molds and yeast spores frequently found in dry spices.

Practical suggestions for the use of SPISORESINS will be sent on request.

"D&O News", the Dodge & Olcott bi-monthly publication, is especially planned to provide timely and useful information on matters essential to the conduct of your business. Ask to be put on the mailing list.

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ATLANTA • BOSTON • CHICAGO • CINCINNATI • DALLAS
LOS ANGELES • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO
ESSENTIAL OILS • AROMATIC CHEMICALS
PERFUME BASES • VANILLA • FLAVOR BASES

PRELIMINARY ANNOUNCEMENT OF THE I. F. T. 1951 ANNUAL MEETING PROGRAM

The Eleventh Annual Meeting of the I. F. T. will be held at the Hotel New Yorker, June 17-20, 1951.

The general program will begin on Monday, June 18th. The papers presented will cover economics of food production, nutritional advances, consumer acceptance, and responsibilities of the food manufacturer in meeting consumer demands.

The technical program will begin on Monday, at 2. P. M. The following subjects will be considered:

Transportation of Foods
Instrumentation and Control Methods in Food Processing
Consumer Acceptance Testing
Packaging of Foods
  (a) General Problems
  (b) Tinplate and its Use in Packaged Foods
Frozen Foods
Low Temperature Evaporation of Food Products
Food Preservation
Plant Control Methods; Product Protection; Life Expectancy of the Product
Military Subsistence, etc.

Titles and abstracts should be submitted to the chairman before March 1, 1951. Abstracts should be informative, but should not exceed 250 words.

Completed papers should be submitted to the chairman before May 1, 1951.

Arrangements are being made to supply the following aids:

Projection lanterns for standard glass slides, 3¼" x 4"
Projection lanterns for Kodachrome slides, 2" x 2"
16 mm. moving picture projectors
  (1) Without sound
  (2) With sound.

Each speaker, in submitting an abstract, should designate the instrument aids required. Visual aids are recommended, but should not be abused by having so much material on slides that it cannot be easily seen or read by the audience.

The papers should be concise and well organized. It is suggested authors study the instructions given by M. S. Peterson, The Quartermaster Food and Container Institute for the Armed Forces, Activities Vol. 2, No. 1 (February 1949), Anderson and Thistle, "On Writing Scientific Papers for Cereal Chemistry" (Transactions A.A.C.C., 6, No. 1, January 1948), "Suggestions for Authors" (Industrial and Engineering Chemistry), and "Suggestions for Authors" (Food Technology).

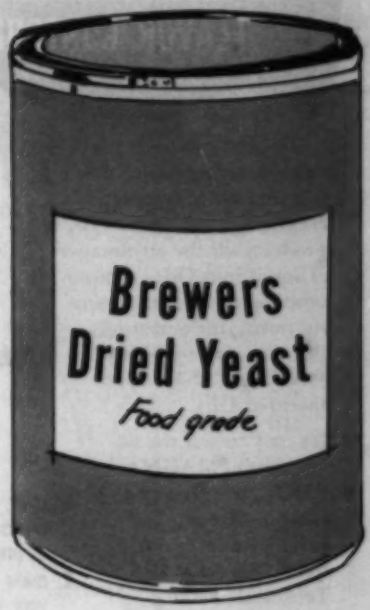
The I. F. T. will have first claim on all manuscripts for publication in FOOD TECHNOLOGY or in FOOD RESEARCH.

C. N. FREY, Chairman.

EGG CONSUMPTION OF VARIOUS COUNTRIES

According to a recent report of the FAO, the 1949 per caput yearly egg consumption in the United States was the highest (21.4 Kg.) among all nations. The consumption in Ireland, Canada, United Kingdom, Belgium, Luxemburg, France, Sweden and New Zealand was in the range of 10-15 Kg. per caput. The Australian consumption, although not reported, can also be assumed to have been in this range. Switzerland, Denmark, Italy, Norway, Czechoslovakia and the Netherlands consumed 5-10 Kg. per caput and the other countries less.

Brewers Dried Yeast a natural source of nutrition and flavor



Baby Foods . . . Soups . . . Baked Goods . . . Cereals . . . Candy . . . Meat Products — these are some of the foods that taste better, keep better, *are* better when enriched with Brewers Dried Yeast, as a concentrated source of nutritive value, it imparts high quality protein and vitamins of the B complex in their normal form. Important, too, as a source of flavor, Brewers Dried Yeast blends well and increases the acceptability of food products. Moreover, present research now indicates how Brewers Dried Yeast can be used to improve certain physical quality factors, such as freshness, tenderness, yield and stability.

What Brewers Dried Yeast is now doing for an ever-growing number of successful food manufacturers it can and will do for your product. Because of increased production it is now available at a remarkably attractive price.

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